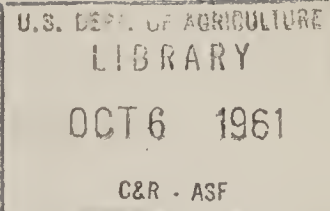


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

Reserve
A 335.8
T23

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration
Washington 25, D. C.



May 1958
Issue No. 18

Telephone Engineering Newsletter

Newsletters are intended to provide a means of answering questions that arise frequently in the field and to inform the field of new developments. They are not intended to be instructions nor to replace in any respect the presently approved channels for establishing requirements and procedures.

TE and CM Sections Being Printed

New 303 Control of Maximum Temperature in Unattended Dial CO Buildings
Add. 629 Cable Plant Layout (Plastic Cable)

New REA Specifications for Buried Cable and Wire

REA has issued REA Specification PE-23, "Fully Color-Coded, Polyethylene-Insulated, Double Polyethylene - Jacketed Telephone Cables for Direct Burial", and REA Specification PE-24, "Buried Distribution Wire", both specifications being dated March 1958. These two specifications have been accepted by the Technical Standards Committee "A" (Telephone) as new REA Standards. Copies of these specifications were included in the recently issued Buried Plant Packet, the product of the concerted efforts of several members of the Telephone Engineering Division covering a period of several weeks. The project was rushed to place the documents in the field so that buried plant could be planned for the 1958 construction season.

"List of Materials" Supplement

Supplements No. 2 and No. 3 to the "List of Materials Acceptable For Use on Telephone Systems of REA Borrowers" have been issued. It is planned to issue supplements on a monthly basis in the future.

Automatic Traffic Meter

An Automatic Traffic Meter cabinet is under development here in the Telephone Engineering Division. Although not portable it is easily transportable for use in making traffic studies in various borrowers' dial central offices. It is available to REA borrowers on request.

Revision of PE-15, Multi-Pair Distribution Wire

REA Specification PE-15, "Multi-Pair Distribution Wire" is undergoing revision to make use of the same color code used in the new specifications for plastic cable, PE-22 and PE-23, and to standardize 12 and 18 pairs instead of 11 and 16 pairs. The new specification probably will call for 2, 4, 6, and 12 pair 19 AWG copper conductors and 12 and 18 pair 22 AWG copper conductors. The support wire for the 12 and 18 pair wires will be a stronger wire than the wire used with the six pair size in order to allow installation of these larger sizes in long spans.

Ready Access Type Enclosures

New "assembly unit" numbers are being established for the ready access type enclosures and their designation as "splice cases" or "terminals" will later be dropped from the "List of Materials Acceptable for Use on Telephone Systems of REA Borrowers." One unit will be for the enclosure without terminal blocks, another will be for a six pair terminal block, and a third will be for a six pair loading coil. One type of ready access enclosure is made in two sizes, one size for cables up to 1.2" in diameter and another size for cables up to 2.2" in diameter. The Cook Electric Company has submitted a similar enclosure for 1.2" diameter cable, having a second or branch nozzle on one end for use with a branch cable not exceeding .84" in diameter. This has been accepted and listed as a "terminal" and as a "splice case" until the new assembly units are placed in effect. An addendum to REA Form 511 will be issued which will include a description of the new assembly units and assembly unit drawings. The addendum will be printed on vellum for reproduction by consulting engineers.

Mobile Radio Equipment

Two additional manufacturers, the General Electric Company and the DuMont Laboratories, Inc., are developing mobile radio equipment that is expected to comply with the specifications written by REA. If the sets meet the REA requirements, the General Electric Company equipment will be given a field trial in North Dakota and the DuMont equipment in Maine.

Manufacturers to Provide Data on Electrical Characteristics of Cable and Buried Wire Under REA New Specifications PE-22, PE-23, and PE-24

During a meeting on April 9, 1958, between REA staff members and the subcommittee of the Insulated Power Cable Engineers Association (IPCEA), REA requested that data on initial runs of cable and buried wire per the new specifications PE-22, PE-23, and PE-24 be obtained and sent to REA. There is a provision in each of these specifications that data on pair-to-pair mutual capacitance, pair-to-pair capacitance unbalance, pair-to-shield capacitance unbalance, and resistance unbalance be furnished as well as other data on electrical and mechanical characteristics. IPCEA representatives seemed amenable to the procedure discussed, namely that

the measurements be made by the manufacturers at the various manufacturers' plants and the "raw" data be furnished to REA where it would be analyzed by the Staff Transmission Group. The analysis will be made available on its cable or wire to the manufacturer submitting the data. In addition all analyses would be made available to the IPCEA as a whole, except that each manufacturer would be given a code by REA in the summarization of the characteristics of the products of the various manufacturers. Thus a significant amount of transmission data will be made available to the IPCEA as well as REA, but the integrity of each manufacturer's product characteristics will be maintained. IPCEA thus far has appeared to be receptive to the idea.

New REA Specification for Plastic Cable for Aerial and Duct Use

A new REA specification entitled PE-22, "Fully Color-Coded Polyethylene-Insulated, Polyethylene-Jacketed Cable for Aerial and Duct Use" has been accepted by Technical Standards Committee "A" (Telephone) in addition to specifications PE-23 and PE-24 mentioned in a preceding paragraph.

Field Test of Transistorized Ringing Generator

Arrangements are being made with the Warren Manufacturing Company to conduct a field trial installation of a transistorized ringing generator in an exchange of the Murraysville Telephone Company (Pennsylvania 528) if laboratory tests which are now in progress are successful. Transistorized generators operate from the exchange battery. The advantages claimed for this equipment include much greater efficiency than other types, and lower maintenance costs.

Telephone Technical Symposium, Memphis, Tennessee, March 24-28, 1958

REA held a five-day telephone technical symposium for consulting engineers at Memphis, Tennessee, beginning March 24, 1958. Attendance was very good, including 102 persons representing 61 consulting engineering firms, 31 persons representing 21 borrowers, 2 persons from the Power and Communications Contractors' Association, a total of 135 persons in addition to the REA representatives. The program followed the conference method with participation by engineers' and borrowers' representatives. The consensus is that it was the best symposium to date. The highlights were the discussion of the buried plant development, the new concept of aerial insulated plant, and emphasis on forward thinking in the designs of borrowers' systems.

#

